

The following claim set is the final claim set with all mark-up notation removed.

1. (Original) An apparatus for supporting a conveyer type submerged roller comprising:
a substantially hollow cylindrical roller submerged in a fluid;
a stationary shaft, having two ends, extending along the longitudinal axis of the roller and fixed or supported at each end;
a plurality of bearing housings with sleeves or inserts, fixed to the roller such that the bearing housings rotate with the roller;
the roller bearing housings secure sleeve or insert bearing surfaces to contact mating bearing surfaces on the stationary shaft;
the stationary shaft has increased lateral moment of inertia adjacent to at least one bearing housing.
2. (Original) The apparatus of claim 1 wherein each roller bearing housing comprises at least a bearing material sleeve.
3. (Original) The apparatus of claim 1 wherein each roller bearing housing comprises at least a bearing material insert.
4. (Original) The apparatus of claim 1 wherein there are radial and axial bearing surfaces, one to withstand radial roller loads and the other to withstand axial thrust roller loads with respect to the stationary shaft.
5. (Original) The apparatus claim 1 wherein the bearing housings are fixed to the roller by at least one keyway to transmit torque from the bearing housing to the roller.
6. (Previously Amended) The apparatus claim 1 wherein the bearing housings are secured to the roller by at least one short anchor bolt or at least one tie rod axially positioned within the substantially hollow cylindrical roller.

7. (Original) The apparatus of claim 1 further comprising end plates on either side of the bearing housings to secure the roller bearing sleeves or inserts.
8. (Original) The apparatus of claim 1 wherein the bearing housings are secured to the roller by vane like ribs to motivate the flow of fluid radially outward as the roller rotates.
9. (Original) The apparatus of claim 1 wherein the bearing surfaces are ported to admit the liquid as a coolant or bearing lubricant.
10. (Original) The apparatus of claim 1 wherein at least one tie rod is enclosed within at least one cylindrical shell section interleaved between the bearing housings within the roller.
11. (Original) The apparatus of claim 1 wherein the buoyancy of the submerged roller is increased by including at least one cylindrical tube within the contained volume of the roller with mass density less than that of the surrounding fluid.
12. (Original) The apparatus of claim 1 wherein the stationary shaft includes coolant passages.
13. (Original) The apparatus of claim 1 wherein the roller is operating submerged in a molten zinc-pot of a steel galvanizing line.
14. (Currently Amended) A method for supporting a conveyer type submerged roller comprising: securing a substantially hollow cylindrical roller submerged within a liquid on a stationary shaft extending axially and concentrically through the roller;

mounting means for roller bearing housings to the interior of the roller to mate with bearing surfaces on the stationary shaft;

varying the lateral moment of inertia of the stationary shaft interleaved within the bearing surfaces.

15. (Original) The method of claim 14 further comprising positioning means for the bearing surfaces.
16. (Original) The method of claim 14 further comprising cooling means for the bearing surfaces using the submersion liquid.
17. (Original) The method of claim 14 further comprising cooling means for the bearings by coolant flow through the interior of the stationary shaft.
18. (Original) The method of claim 14 further comprising increasing buoyancy of the submerged roller with low density inserts attached to the inside of the roller.
19. (Previously Canceled)

Claims 20-37 (Canceled)

38. (New) An apparatus for supporting a conveyer type submerged roller comprising:
 - a substantially hollow cylindrical roller submerged in a fluid;
 - a stationary shaft, having two ends, extending along the longitudinal axis of the roller and fixed or supported at each end;
 - a plurality of bearing housings with sleeves or inserts, fixed to the roller such that the bearing housings rotate with the roller;
 - the roller bearing housings secure sleeve or insert bearing surfaces to contact mating bearing surfaces on the stationary shaft;
 - at least one thin cylindrical tube within the contained volume of the roller having a mass density less than that of the fluid in which the roller is submerged.

---REMARKS---

The Applicant has carefully reviewed the Final Rejection from the Examiner and has made amendments and followed instructions from the Examiner to put the application in condition for allowance.

Claims 20 through 37 have been canceled.

New claim 38 has been added which incorporates allowable subject matter stated by the Examiner by redrafting dependent claim 34 to include the limitations of claim 37.

The Abstract of the invention has been replaced to comply with the 150 word limit.

Conclusion

For all the reasons given above, Applicant respectfully submits that the claims are now in condition for allowance. No new matter has been added by this amendment. If the Examiner believes a telephone conversation would assist in the further prosecution of this application the Agent for the Assignee may be reached at (304)293-6329.

Respectfully Submitted,



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